ELSEVIER

Thermochimica Acta 267 (1995) vii

thermochimica acta

Contents

(Abstracted/Indexed in: Curr. Contents: Phys., Chem. Earth Sci.; Eng., Technol. Appl. Sci., Chem. Abstr., PASCAL/CNRS)

Special Issue: Calorimetry and Thermal Analysis, A Selection of Papers Presented at the 30th Anniversary Conference of the Japan Society of Calorimetry and Thermal Analysis, Osaka, Japan, 31 October to 2 November 1994, edited by M. Sorai, M. Todoki and S. Murakami

Preface x

REVIEW PAPERS

Thermochemical studies of inorganic chalcogenides by fluorine-combustion calorimetry: binary compounds of germanium and silicon with sulfur, selenium and tellurium
P.A.G. O'Hare (Gaithersburg, MD, USA) .....

Structure and the thermodynamics of non-electrolyte mixtures
D. Patterson (Montreal, Canada) 15

Thermal analysis and kinetics of solid state reactions
H. Tanaka (Higashi-Hiroshima, Japan) 29

Isothermal microcalorimetry for the characterization of interactions between drugs and biological materials
I. Wadsö (Lund, Sweden) 45

The applicability of Johnson–Mehl–Avrami model in the thermal analysis of the crystallization kinetics of glasses
J. Málek (Tsukuba, Japan) 61

REGULAR PAPERS

Development of the light heating dynamic DSC
M. Nishikawa and Y. Saruyama (Kyoto, Japan) 75

Application of dynamic differential scanning calorimetry to study of phase transitions
I. Hatta (Nagoya, Japan), H. Ichikawa and M. Todoki (Otsu, Japan) 83

Thermal behavior of Belousov-Zhabotinskii reactions with Ce(IV) salts measured by heat exchange calorimetry of flow type involving simultaneous observation of potentiometric oscillations
S. Fujieda and W. Zhang (Tokyo, Japan) 95

On the applicability of optical depth-atomic absorption relationship to measurements of alkali seeded combustion flames
N. Kayukawa (Sapporo, Japan) 107

Application of macro-TG (Shimadzu TGA-51) to hydrogen spillover in a tungsten(VI) oxide system
K. Kanamaru, H. Kuwata and T. Okino (Kyoto, Japan) 117

Simultaneous thermogravimetry-mass spectrometry for a solid oxide fuel cell interconnect, $(La_{0.7}Ca_{0.32})CrO_3$
H. Yokokawa, T. Horita, N. Sakai, T. Kawada, M. Dokiya (Ibaraki, Japan), Y. Takai and M. Todoki (Shiga, Japan) 129

Electrochemical Peltier heat in the polypyrrole electrolyte system
Y. Maeda and T. Kumagai (Toyohashi, Japan) 139
Thermoanalytical characterization of powder samples I. Wet pretreated samples
R. Ozao, M. Ochiai, H. Ogura (Kanagawa, Japan) and S. Tsutsumi (Tokyo, Japan) 149
Phase transition of capillary condensed liquids in porous silica: effect of surface hydroxyl groups
T. Takei, T. Konishi, M. Fuji, T. Watanabe and M. Chikazawa (Tokyo, Japan) 159
Pore size distribution measurements of polymer hydrogel membranes for artificial kidneys using differential scanning calorimetry
K. Ishikiriyama,, A. Sakamoto, M. Todoki, T. Tayama, K. Tanaka and T. Kobayashi (Shiga, Japan) ... 169
Crystallization kinetics of zirconia-yttria gels
J. Málek, S. Matsuda, A. Watanabe, T. Ikegami and T. Mitsuhashi (Tsukuba, Japan) 181
A kinetic study of the thermal decomposition of iron(III) hydroxide-oxides. Part 2. Preparation and thermal decomposition of γ-FeO(OH)
N. Koga, S. Okada, T. Nakamura and H. Tanaka (Hiroshima, Japan) 195
A combined thermogravimetric-gas chromatographic/mass spectrometric analysis (TG-GC/MS) using a high resolution TG technique
T. Arii, T. Senda (Tokyo, Japan) and N. Fujii (Nagaoka, Japan) 209
Study of fire-retardant polymers using temperature jump/Fourier transform infrared spectroscopy
Y. Nagasawa, M. Yamamoto and K. Ozawa (Nagoya, Japan) 223
Thermal degradation of aromatic polyformals derived from bisphenol A and bisphenol AF
S. Nakamura, Y. Suzuki (Yokohama, Japan), T. Kojima and K. Tago (Kanagawa, Japan) 231
Dynamic analysis of the melting behavior of polymers showing polymorphism observed by simultaneous DSC/X-ray diffraction measurements
H. Yoshida (Tokyo, Japan) 239
Effect of chemical structure of amorphous polymers on heat capacity difference at glass transition temperature
T. Hatakeyama and H. Hatakeyama (Ibaraki, Japan) 249
Activation energy for crystallization of low molecular weight poly(ethylene oxide) and low molecular weight poly(ethylene oxide)/poly(methyl methacrylate) blends determined by DSC and polarized optical microscopy
S. Imai, S. Shimono, Y. Fukushima, K. Umezaki, M. Okada, M. Takahashi and H. Matsuda (Nagano, Japan) 259
Effects of salts on the gel-sol transition of gellan gum by differential scanning calorimetry and thermal scanning rheology
E. Miyoshi, T. Takaya and K. Nishinari (Osaka, Japan) 269
Thermal diffusivity in a binary mixture of poly(phenylene oxide) and polystyrene
J. Morikawa, A. Kobayahi and T. Hashimoto (Tokyo, Japan) 289
Freezing-in phenomena of high-temperature structures and their structural determination for henpentacontane and dopentacontane
K. Takamizawa, Y. Urabe, J. Fujimoto, H. Ogata (Fukuoka, Japan) and Y. Ogawa (Kumamoto, Japan) 297
Observation of the melting process for ethyl *p*-aminobenzoate doped with eutectic mixture
K. Yamamoto, H. Kitamura (Shizuoka-shi, Japan), M. Momota (Akishima-shi, Japan) and K. Narita (Shizuoka-shi, Japan) 313
Excess thermodynamic properties of mixtures of cyclohexanone and benzene at 298.15 and 308.15 K and the effect of excess expansion factor
K. Nishikawa, K. Ohomuro, K. Tamura and S. Murakami (Osaka, Japan) 323
Excess enthalpies of some halogenized aromatic compounds + methyl methylthiomethyl sulfoxide or + dimethyl sulfoxide at 298.15 K XI. Thermodynamics of liquid mixtures containing methyl methylthiomethyl sulfoxide
T. Kimura, T. Tsuda and S. Takagi (Higashi-osaka, Japan) 333
Thermal properties of water insoluble alginate films containing di- and trivalent cations
K. Nakamura, Y. Nishimura (Tokyo, Japan), T. Hatakeyama and H. Hatakeyama (Ibaraki, Japan) 343

Calorimetric and small angle X-ray and neutron scattering studies of mixing gangliosides and methylated albumin
T. Takizawa, M. Hirai, S. Yabuki, Y. Nakata, A. Takahashi and K. Hayashi (Maebashi, Japan) 355
Effect of Na^+ concentrations on both size and multiplicity of multilamellar vesicles composed of negatively charged phospholipid as revealed by differential scanning calorimetry and electron microscopy
M. Kodama and T. Miyata (Okayama, Japan) 365
Differential scanning calorimetric studies of the thermal unfolding of acid proteinase A from *Aspergillus niger* at various pHs
H. Fukada, K. Takahashi, M. Sorai (Osaka, Japan), M. Kojima, M. Tanokura and K. Takashashi (Tokyo, Japan) 373
Heat denaturation and cold denaturation of *Escherichia coli* RNase HI investigated by circular dichroism
T. Yamasaki, S. Kanaya and M. Oobatake (Osaka, Japan) 379
High temperature heat capacities and electrical conductivities of UO_2 doped with Nd and Mg
Y. Arita and T. Matsui (Nagoya, Japan) 389
Heat capacity measurements of hafnium–oxygen solid solutions at high temperatures
T. Kato and T. Tsuji (Nagoya, Japan) 397
A study on phase transition of $CsCl \rightleftharpoons NaCl$ in CsCl, NH_4Cl and NH_4Br by simultaneous AE-DTA measurement
S. Shimada, Y. Katsuda and M. Inagaki (Sapporo, Japan) 405
Low temperature heat capacities of zirconia and yttria-doped zirconia $(ZrO_2)_{1-x}(Y_2O_3)_x$ ($x = 0$, 0.0200, 0.0396)
T. Shirakami, T. Tojo, T. Atake (Yokohama, Japan), T. Mori and H. Yamamura (Tsukuba-shi, Japan) 415
Low temperature thermal properties of cobalt(II) bromate hexahydrate
T. Matsuo, N. Kinami and H. Suga (Osaka, Japan) 421
Very low-temperature heat capacities and magnetic thermal anomalies of the organic free radical magnet, 4-methacryloylamino-2,2,6,6-tetramethylpiperidine-1-oxyl (MATMP)
N. Ohmae, A. Kajiwara, Y. Miyazaki, M. Kamachi and M. Sorai (Osaka, Japan) 435

Author Index 445

Subject Index 447